

Recovery Plan Action Status

Plan Name: Arroyo Southwestern Toad (*Bufo microscaphus californicus*) Recovery Plan

Plan Status: Final

Plan Date: 24-Jul-99

Lead Agency: USFWS

Lead Office: Ventura Fish And Wildlife Office

(805)
644-1766)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (<i>Bufo californicus</i> (=microscaphus))	2	1.1.1	Minimize or eliminate impacts to arroyo toads and their breeding habitat near campgrounds to prevent the killing or injury of all life stages of arroyo toads.	Ongoing Current	FY 1995 - FY 1999		U.S. Forest Service	Management: Land Use	Internal Administrative	
Arroyo (=arroyo southwestern) toad (<i>Bufo californicus</i> (=microscaphus))	2	1.1.2	Annually close roads in or near arroyo toad breeding habitat during the spring and summer to prevent the killing of subadult and adult toads on roads.	Ongoing Current	FY 1995 - FY 1999		Water agencies, U.S. Forest Service	Management: Land Use	Internal Administrative	
Arroyo (=arroyo southwestern) toad (<i>Bufo californicus</i> (=microscaphus))	2	1.1.3	Control mining and prospecting activities in drainages with arroyo toad populations to prevent habitat degradation, death of and injury to toads.	Ongoing Current	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Management: Land Use	Internal Administrative	
Arroyo (=arroyo southwestern) toad (<i>Bufo californicus</i> (=microscaphus))	2	1.1.4	Restrict fishing activities in arroyo toad breeding habitats when arroyo toads are present in the stream channel on the sand and gravel bars.	Ongoing Current	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Management: Land Use	Internal Administrative	
Arroyo (=arroyo southwestern) toad (<i>Bufo californicus</i> (=microscaphus))	2	1.1.5	Monitor and remove exotic vegetation where found. Determine if the removal benefits arroyo toads.	Ongoing Current	FY 1995 - FY 1999		Camp Pendleton, U.S. Marine Corps, Fallbrook Naval Weapons Annex, California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.6	Replace inadequate stream crossings on roads within known arroyo toad habitats with appropriate crossings	Partially Complete	FY 1995 - FY 1999		U.S. Military Reservations, U.S. Forest Service	Management	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.7.1	Develop and implement a livestock management plan to minimize, as necessary, impacts to arroyo toads on Los Padres National Forest.	Partially Complete	FY 1995 - FY 1999		U.S. Forest Service	Management: Land Use	Internal Administrative	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.7.2	Develop and implement a livestock management plan to minimize, as necessary, impacts to arroyo toads on San Bernardino National Forest	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Forest Service	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.7.3	Develop and implement a livestock management plan to minimize, as necessary, impacts to arroyo toads on Cleveland National Forest.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Forest Service	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.7.4	Develop and implement a livestock management plan to minimize, as necessary, impacts to arroyo toads on Fort Hunter Liggett.	Obsolete			U.S. Forest Service	Management: Planning	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.7.5	Develop and implement a livestock management plan to minimize, as necessary, impacts to arroyo toads on Camp Pendleton.	Obsolete			U.S. Forest Service	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.1.8	Identify and eliminate breeding sites of introduced fishes and aquatic predators near arroyo toad habitat, and control or eliminate exotic species.	Not Started			California Department of Fish and Game, U.S. Forest Service	Research: Habitat Status	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.2	Coordinate with the Service regarding the activities of law enforcement agencies to reduce impacts to arroyo toads.	Not Started			U.S. Bureau of Customs and Border Protection, U.S. Fish and Wildlife Service	Other: Law Enforcement	Internal Administrative	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.1	Determine and maintain a compatible pattern of stream flows downstream from Jameson Lake and associated water diversions.	Not Started			California Department of Water Resources, Montecito Water District, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.10	Determine and maintain a compatible pattern of stream flows downstream from Morena Reservoir.	Not Started			California Department of Water Resources, City of San Diego, California, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.2	Determine and maintain a compatible pattern of streams flows downstream from Pyramid Lake	Ongoing Current	FY 1995 - FY 1999		California Department of Water Resources, Castaic Water District, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	CA Div. of Water Resources has modified their water releases to benefit the toad and has applied to FERC for an amended license.
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.3	Determine and maintain a compatible pattern of stream flows downstream from Castaic Lake.	Not Started			California Department of Water Resources, Castaic Water District, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation, Research: Habitat Status	Internal Technical Assistance, Species Expert	Arroyo toads likely extirpated below Castaic Lake

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.4	Determine and maintain a compatible pattern of stream flows downstream from lake Henshaw.	Not Started			California Department of Water Resources, Vista Irrigation District, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.5	Determine and maintain a compatible pattern of stream flows downstream from Lake Sutherland.	Not Started			California Department of Water Resources, City of San Diego, California, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.6	Determine and maintain a compatible pattern of stream flows downstream from Lake Cuyamaca.	Not Started			California Department of Water Resources, Helix Water District, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.7	Determine and maintain a compatible pattern of stream flows downstream from El Capitan Reservoir.	Not Started			California Department of Water Resources, City of San Diego, California, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.8	Determine and maintain a compatible pattern of stream flows downstream from Loveland Reservoir.	Not Started			California Department of Water Resources, Sweetwater Authority (a water district), California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.3.9	Determine and maintain a compatible pattern of stream flows downstream from Barrett Lake.	Not Started			California Department of Water Resources, City of San Diego, California, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	1.4	Reduce adverse effects to arroyo toad habitat through appropriate means, with the assistance of non-Federal public land owners and managers, nonprofit organizations, land conservancies and private landowners.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: General	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	2.1	Develop a comprehensive arroyo toad monitoring protocol.	Partially Complete	FY 1995 - FY 1999		U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Population Surveys	Internal Technical Assistance	A monitoring protocol has been developed for Camp Pendleton, and could be applied more broadly. Fort Hunter Liggett has largely based their monitoring efforts on this protocol.
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	2.2	Conduct bi-yearly monitoring of adult populations.	Not Started			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	2.3	Assess the results of population monitoring and modify management directions as necessary.	Not Started			California Department of Fish and Game, U.S. Forest Service	Management: General	Internal Field Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.1	Develop a comprehensive arroyo toad survey protocol	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Other: Administration, Research	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.1.1	Survey the main Salinas River upstream from King City for suitable habitat and the presence/absence of arroyo toads	Not Started			California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.1.2	Survey the San Antonio River for suitable habitat and the presence/absence of arroyo toads	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Fort Hunter Liggett Military Reservation, California Department of Fish and Game	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.1.3	Survey the Nacimiento River for suitable habitat and the presence/absence of arroyo toads	Partially Complete	FY 1995 - FY 1999		Fort Hunter Liggett Military Reservation, California Department of Fish and Game	Research: Population Surveys	Contract	The Army has looked at the Fort Hunter Liggett portion of the river and deemed it unsuitable & unoccupied.
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.10	Survey the San Dieguito River basin for suitable habitat and the presence/absence of arroyo toads	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.11	Survey the San Diego River basin for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.12	Survey the Sweetwater River basin for suitable habitat and the presence/absence of arroyo toads,	Partially Complete	FY 1995 - FY 1999		Sweetwater Authority (a water district), California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.13	Survey the Otay River basin for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.14	Survey the Cottonwood Creek drainage basin for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.15	Survey the San Felipe creek basin for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.16	Survey Borrego Springs and Coyote Creek area for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Parks and Recreation, California Department of Fish and Game	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.17	Survey the Vallecito Creek basin for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.18	Survey the Pinto Wash basin for suitable habitat and the presence/absence of arroyo toads.	Not Started			U.S. Bureau of Land Management, California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.2.1	Survey the main Cuyama river above Twitchell Reservoir for suitable habitat and the presence/absence of arroyo toads	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.2.2	Survey Huasna Creek above Twitchell Reservoir for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.3.1	Survey Cachuma Creek for suitable habitat and the presence/absence of arroyo toads.	Unknown			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.3.2	Survey the Santa Cruz Creek for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.3.3	Survey Horse Canyon for suitable habitat and the presence/absence of arroyo toads.	Unknown			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.3.4	Survey Redrock Canyon for suitable habitat and the presence/absence of arroyo toads.	Unknown			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.4.1	Survey Elizabeth Creek upstream for Castaic Lake for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.4.2	Survey San Francisquito Canyon drainages for suitable habitat and the presence/absence of arroyo toads.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	California Department of Fish and Game, U.S. Forest Service	Research: Habitat Status, Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.4.3	Survey Bouquet Canyon drainages for suitable habitat and the presence/absence of arroyo toads.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	California Department of Fish and Game, U.S. Forest Service	Research: Habitat Status, Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.4.4	Survey Mint Canyon drainages for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.5.1	Survey San Jacinto River upstream from Hemet for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.5.2	Survey Bautista Creek for suitable habitat and the presence/absence of arroyo toads.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	California Department of Fish and Game, U.S. Forest Service	Research: Habitat Status, Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.6.1	Survey Arroyo Trabuco for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.6.2	Survey Canada Chiquita for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.6.3	Survey Canada Gobernadora for suitable habitat and the presence/absence of arroyo toads	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.7.1	Survey Fremont Canyon for suitable habitat and the presence/absence of arroyo toads.	Not Started			California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.7.2	Survey Black Star Canyon for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.7.3	Survey Baker Canyon for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.7.4	Survey Silverado Canyon for suitable habitat and the presence/absence of arroyo toads	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.8	Survey Temecula Creek above Vail Lake, Upper Santa Margarita River basin for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	3.2.9	Survey the San Luis Rey River basin for suitable habitat and the presence/absence of arroyo toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Population Surveys	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	3.3	Identify and implement management actions necessary for securing additional populations of arroyo toads.	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: General	Internal Technical Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	4.1	Determine and quantify difference in the life history and ecology of the arroyo toad relative to latitude and elevation.	Ongoing Current	FY 1995 - FY 1999		U.S. Geological Survey, Biological Resources Division, California Department of Fish and Game	Research: Habitat Requirements, Research: Other Information	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.10	Determine genetic difference and similarities within and among populations by collecting and evaluating tissue samples.	Not Started			U.S. Geological Survey, Biological Resources Division, California Department of Fish and Game	Research: Genetics	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	4.2	Quantify the ecological parameters, both abiotic and biotic, for arroyo toad presence withing drainages.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game	Research: Habitat Status	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.3	Evaluate the potential of habitats within the historic range for reestablishment	Not Started			U.S. Geological Survey, Biological Resources Division	Research: Habitat Requirements	Internal Technical Assistance	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.4.1	Investigate the interactions of arroyo toads with exotic species	Not Started			U.S. Geological Survey, Biological Resources Division, California Department of Fish and Game	Research: Predation	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	2	4.4.2	Experiment to find effective methods of removing exotic species from arroyo toad habitats	Ongoing Not Current	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Management Techniques	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.5	Reduce roadkill of arroyo toads by determining the best types stream crossings and road barriers.	Not Started			California Department of Fish and Game, U.S. Forest Service	Management: Land Use	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.6	Determine if arroyo toads are moving between drainages	Not Started			U.S. Geological Survey, Biological Resources Division, California Department of Fish and Game	Research: Migration	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.7	Assess impacts of different grazing regimes on arroyo toads	Not Started			U.S. Forest Service	Research: Management Techniques	Graduate Student	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.8	Assess impacts of recreational activities on toads.	Partially Complete	FY 1995 - FY 1999		California Department of Fish and Game, U.S. Forest Service	Research: Management Techniques	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	4.9	Assess the effects of fire on arroyo toad habitat and populations	Ongoing Current	FY 1995 - FY 1999		U.S. Geological Survey, Biological Resources Division, U.S. Forest Service	Research: General	Graduate Student	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	5.1	Develop educational brochures and make them available to agencies	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Other: Information and Education	Contract	
Arroyo (=arroyo southwestern) toad (Bufo californicus (=microscaphus))	3	5.2	Provide educational programs for visitors to toad habitats	Ongoing Current	FY 1995 - FY 1999		California Department of Parks and Recreation, U.S. Forest Service	Other: Information and Education	Internal Field Assistance	